



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,990	02/09/2005	Masakazu Hayashi	100193-00001	2843
4372	7590	02/13/2008	EXAMINER	
AREN'T FOX LLP 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			YANG, JIE	
ART UNIT	PAPER NUMBER	1793		
NOTIFICATION DATE	DELIVERY MODE			
02/13/2008	ELECTRONIC			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com  
IPMatters@arentfox.com  
Patent\_Mail@arentfox.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/523,990	<b>Applicant(s)</b> HAYAISHI ET AL.
	<b>Examiner</b> JIE YANG	<b>Art Unit</b> 1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 26 November 2007.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

*/Roy King/*

**Supervisory Patent Examiner, Art Unit 1742DETAILED ACTION**

Claims 1-5 are pending in application. It is acknowledged of receiving terminal disclaimer under 37 C.F.R.1.321 (d) marked 11/26/2007 and the English translation for the foreign priority application.

***Status of the Precious Rejection***

The previous rejection of claims 1-5 under 35 U.S.C. 103(a) as being obvious over Takashi Kano et al (U.S 6,783,728 B2, thereafter '728) is maintained.

The previous rejection of claims 1-5 under 35 U.S.C. 103(a) as being obvious over Hayaishi et al (U.S. 6,764,645, Thereafter '645) is withdrawn in view of applicant's arguments/amendment and new filled terminal disclaimer under 37 C.F.R.1.321 (d) marked 11/26/2007 and the English translation for the foreign priority application.

The previous rejection of claims 1-5 under the ground of nonstatutory obviousness-type double patenting as being unpatentable over U.S. Patent No. 6,764,645 (Thereafter '645) is withdrawn in view of applicant's arguments/amendment and new filled terminal disclaimer under 37 C.F.R.1.321 (d) marked 11/26/2007 and the English translation for the foreign priority application.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 rejected under 35 U.S.C. 103(a) as being obvious over Takashi Kano et al (U.S 6,783,728 B2, thereafter US'728).

US'728 is applied to the claims 1-5, for the same reason as stated in the previous rejection dated 05/24/2007.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5 over US'728 have been considered but they are not persuasive.

Applicant argues:

1. Kano does not disclose or suggest at least five MnS-inclusion particles having averaged particle size of 1.0  $\mu\text{m}$  or more existing per  $\text{mm}^2$  per S-content 0.01%. Kano merely discloses that manganese is an essential element to form sulfides.

2. There is no disclosure or suggestion in Kano for the claimed area [ $\mu\text{m}^2$ ]/aspect ratio larger than or equal to 10.

Examiner Responds:

US'728 discloses steel superior in machinability with constituents whose wt% ranges overlap those recited by the claims (refer to abstract and claims 1-10 of '728). More specially, the composition ranges of Mn (0.1-3.5wt%) and S (0.01-0.2wt%) as claimed in the instant invention are same as the ranges of Mn and S as disclosed in US'728 (Abstract of US'728). Even though prior art discusses the morphologies of MnS

inclusions in different way (Particle size, area over aspect ratio, and film of sulfide inclusions being formed on the tool surface during turning), the inclusions distribution as claimed in instant application would be expected in US'728 due to the overlapping composition. Refer to MPEP 2144.05 about the "Obviousness of ranges [R-5]" and also refer to MPEP 2131.05. It would have been obvious to one of ordinary skill in the art to select the claimed alloy ranges from the broader disclosure of the prior art since the prior art discloses the same utility and properties (free-cutting, non-leaded, and excellent machinability, particularly, machinability by cutting with cemented carbide tools). Please further refer to the office action marked 05/24/2007.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-270-1884. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY/Roy King/  
Supervisory Patent Examiner, Art Unit 1742